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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,096	03/19/2004	Pierre Marraccini	112701-535	7981
29157	7590	07/31/2006	EXAMINER	
BELL, BOYD & LLOYD LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			FOX, DAVID T	
			ART UNIT	PAPER NUMBER
			1638	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/804,096

Applicant(s)

MARRACCINI ET AL.

Examiner

David T. Fox

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 May 2006 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is indefinite for depending upon newly cancelled claim 7. As claim 12 is a substantial duplicate of claim 14, claim 12 should be cancelled.

Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, as stated for claim 7 on page 2 of the Office action mailed 27 January 2006. As claim 13 is a duplicate of cancelled claim 7, the rejection should have been previously applied. The error is regretted. Suggested claim amendments to overcome this rejection may be found at the end of this Office action.

Claims 1-6 and 12-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use

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the invention, as stated on pages 2-4 of the Office action mailed 27 January 2006 for claims 1-7 and 12-14.

Claims 1-6 and 12-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, as stated on page 4 of the Office action mailed 27 January 2006 for claims 1-7 and 12-14.

Applicant's arguments filed 23 May 2006 have been fully considered but they are not persuasive. Applicant urges that the enablement and written description rejections are improper, given the ability of the skilled artisan to construct and evaluate various antisense constructs, as asserted in the McCarthy affidavit of 26 April 2006.

The Examiner maintains that the McCarthy affidavit provided experimental results using only the full-length coding sequence of the coffee alpha-D-galactosidase gene, as taught in the specification. The assertions in the declaration that other sequences would work are not probative, given the evidence of unpredictability previously provided by the Examiner. See also page 3 of the McCarthy affidavit, paragraph 7, where the lack of repeatability and variable results of antisense inhibition are admitted; and where the requirement for the full-length coding sequence to reliably give results is also admitted.

See also Colliver et al (1997, Plant Molecular Biology 35: 509-522) who teach that bird's foot trefoil transformation with a bean chalcone synthase gene in antisense

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orientation unexpectedly resulted in *increased* chalcone synthase activity in the transformed plant (see, e.g., page 509, Abstract). Such additional evidence of unpredictability underscores the Examiner's position, and refutes Applicant's assertions that success would be expected in most cases.

Regarding the written description rejection, the Examiner maintains that Applicant's single species is not representative of the broadly claimed genus, which is not even limited to particular genes or plant sources (see claim 1).

The claims remain free of the prior art, given the unpredictability inherent in the process, and the failure of the prior art to teach or reasonably suggest antisense RNA-mediated inhibition of alpha-D-galactosidase expression in coffee.

No claim is allowed.

The following amendments would result in removal of all rejections and allowance of the claims. Said amendments are supported by the specification on page 5, line 25; page 6, lines 16-20; page 7, lines 20-25; page 9, lines 7-20. All claim amendments should comply with 37 CFR 1.121(c).

Cancel claims 2, 5 and 12.

Amend claims 1, 3, 13 and 15 as follows:

---Claim 1 (currently amended). A coffee plant cell that produces galactomannans and that is modified to reduce endogenous levels of alpha-D-galactosidase mRNA, wherein the coffee plant cell [is produced using antisense technology] comprises an antisense cassette comprising a full-length alpha-D-galactosidase coding sequence from coffee operably linked to a promoter in antisense orientation.---

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---Claim 3 (currently amended). The coffee plant cell according to claim [2] 1, wherein the [nucleic acid] promoter is [under the control of] a constitutive or inducible promoter.---

---Claim 13 (currently amended). Coffee beans obtained from the coffee plant according to claim 6, wherein said beans comprise said antisense cassette.---

---Claim 15 (currently amended). A coffee bean comprising a cell that produces galacto-mannans that is modified to reduce endogenous levels of alpha-D-galactosidase mRNA, wherein the coffee plant cell is produced [using antisense technology] according to the method of claim 1.---

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David T. Fox whose telephone number is 571-272-0795. The examiner can normally be reached on Monday through Friday from 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 21, 2006

DAVID T. FOX  
PRIMARY EXAMINER  
GROUP 180 / 1638

